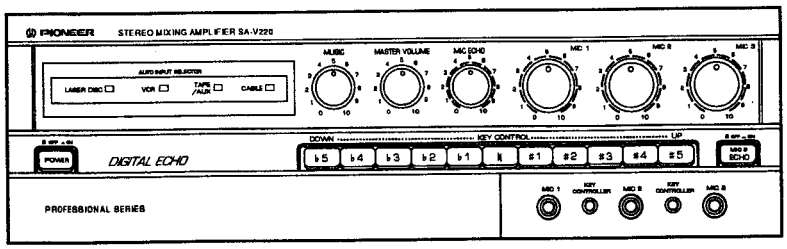
PIONEER®
The Art of Entertainment

Operating Instructions
Mode d'emploi
Bedienungsanleitung
Istruzioni per l'uso
Gebruiksaanwijzing
Bruksanvisning
Manual de instrucciones

SA-V220

STEREO MIXING AMPLIFIER
AMPLIFICATEUR DE MIXAGE STEREO
STEREO-MISCHVERSTÄRKER
AMPLIFICATORE MIXER STEREO
STEREO-MENG VERSTERKER
MIXANDE STEREOFÖRSTÄRKARE
AMPLIFICADOR DE MEZCLA ESTÉREO

English
Français
Deutsch
Italiano
Nederlands
Svenska
Español



Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING:

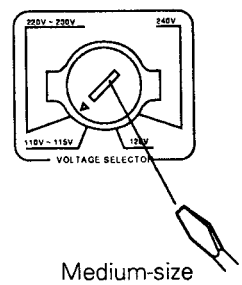
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

LINE VOLTAGE SELECTOR SWITCH

Only multi-voltage models are provided with this switch. U.S. and Canadian, models are not provided with this switch.

Before your model is shipped from the factory, this switch is set to the power requirements of the destination; nevertheless, you should check that it is set properly before plugging the power cord into the wall outlet.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selector and adjust so that the tip of the arrow points to the voltage value of your area.



Medium-size screwdriver

IMPORTANT

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

"This product complies with the Radio Interference requirements of the EC (European Community) Directive 87/308/EEC."

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surface.

CONTENTS

BEFORE CONNECTION 2
CONNECTIONS 3
PANEL FACILITIES 6
OPERATION 10
ENJOY THE ECHO EFFECT 10
TROUBLESHOOTING 11
SPECIFICATIONS 11

BEFORE CONNECTION

Connection Precautions

- Do not turn the stereo mixing amplifier or the stereo components ON before all connections are completed.
- The IN/OUT terminals of the stereo mixing amplifier are assigned as "L" for the left channel and "R" for the right channel. Be sure to connect to the correct channel.
- Insert the connection cables correctly. Improper connection may result in no sound from the speakers or cause background noise.

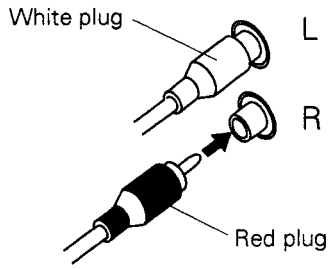
LOCATION

Install the component in a well ventilated location where it will not be exposed to high temperature or humidity.
Do not install the component in a location which is exposed to direct rays of the sun, or near to hot appliances or radiators. Excessive heat can adversely affect the cabinet and internal components. Installation of the component in a damp or dusty environment may result in malfunction or accident. (Also avoid installation near cookers etc., where the component may be exposed to smoke from oil, steam or heat.)

CONNECTIONS

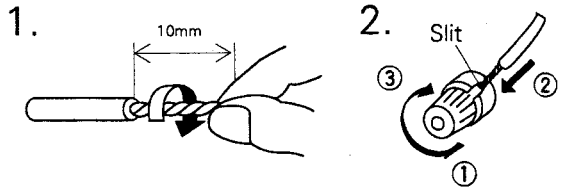
Connection of Input and Output Cords

- Connect white plug to " L " side and red plug to " R " side. Make sure to insert them securely.
- Insert the pin plug of the connecting cords securely. Incomplete plugging may result in noise or insufficient sound.



Connection of Speaker Cord

Strip off the vinyl coating and put the wire ends together.



① Loosen the screw.
② Insert the wires into the hole.
③ Tighten the screw and fasten the wires.

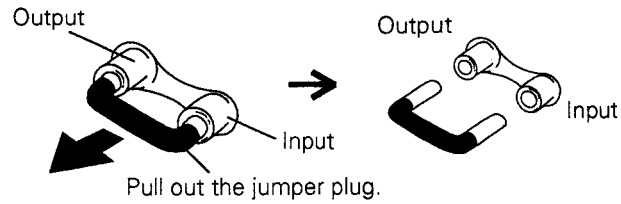
Impedance of Speaker System

Speaker systems with a nominal impedance of 4 to 16 Ω can be used when systems A and B are used separately. Use nominal impedance of 8 to 32 Ω when playing both systems simultaneously.

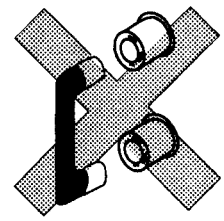
To use ADAPTOR jacks:

Remove the jumper plug when connecting a graphic equalizer or sound processor to the ADAPTOR IN/OUT jacks.

- Store the jumper plug in a safe place. Do not install it onto other jacks.
- Be sure to install the jumper plug when you are not using the ADAPTOR jacks.



- Do not install the jumper plug vertically. Incorrect installation may cause a malfunction.

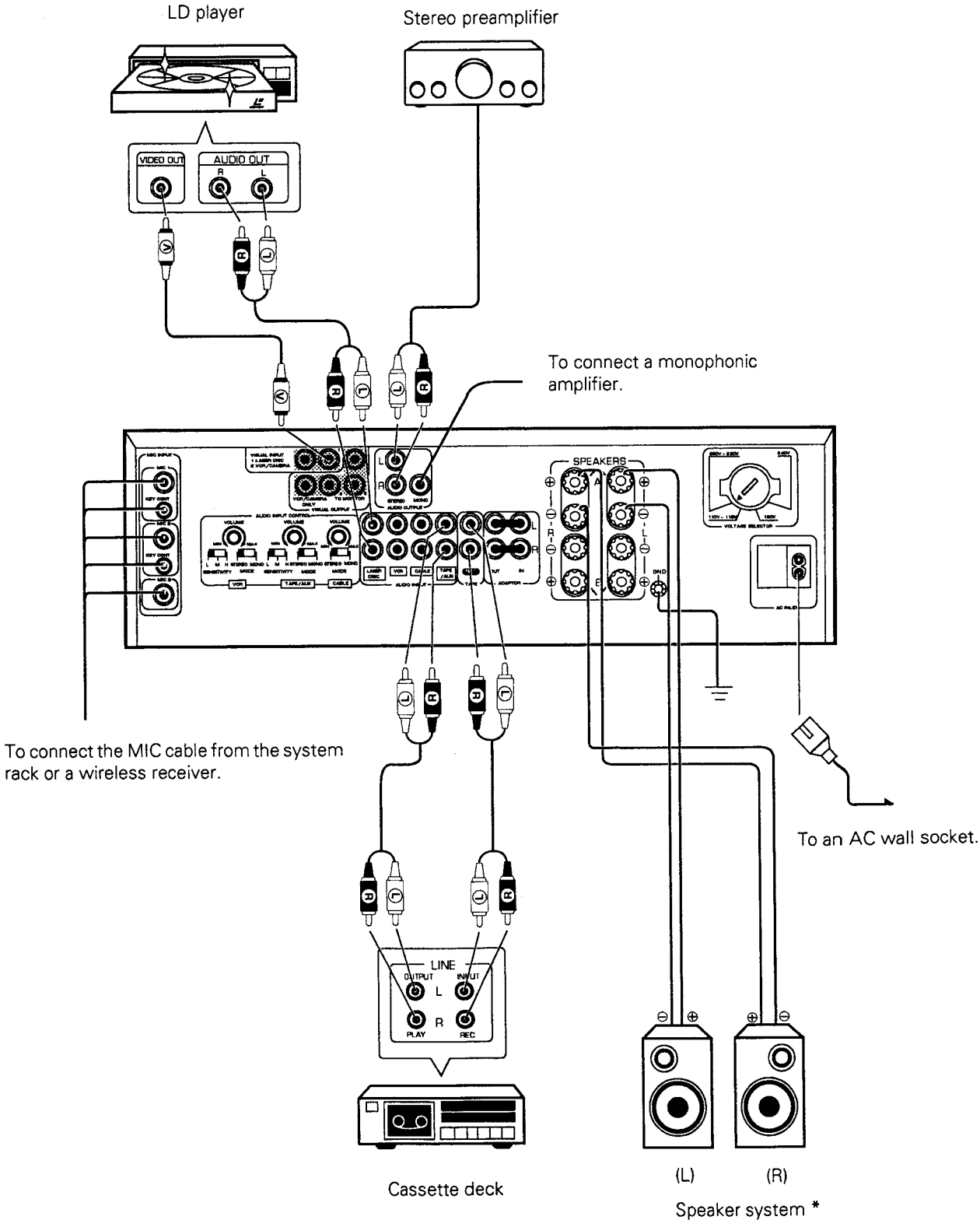


NOTES:

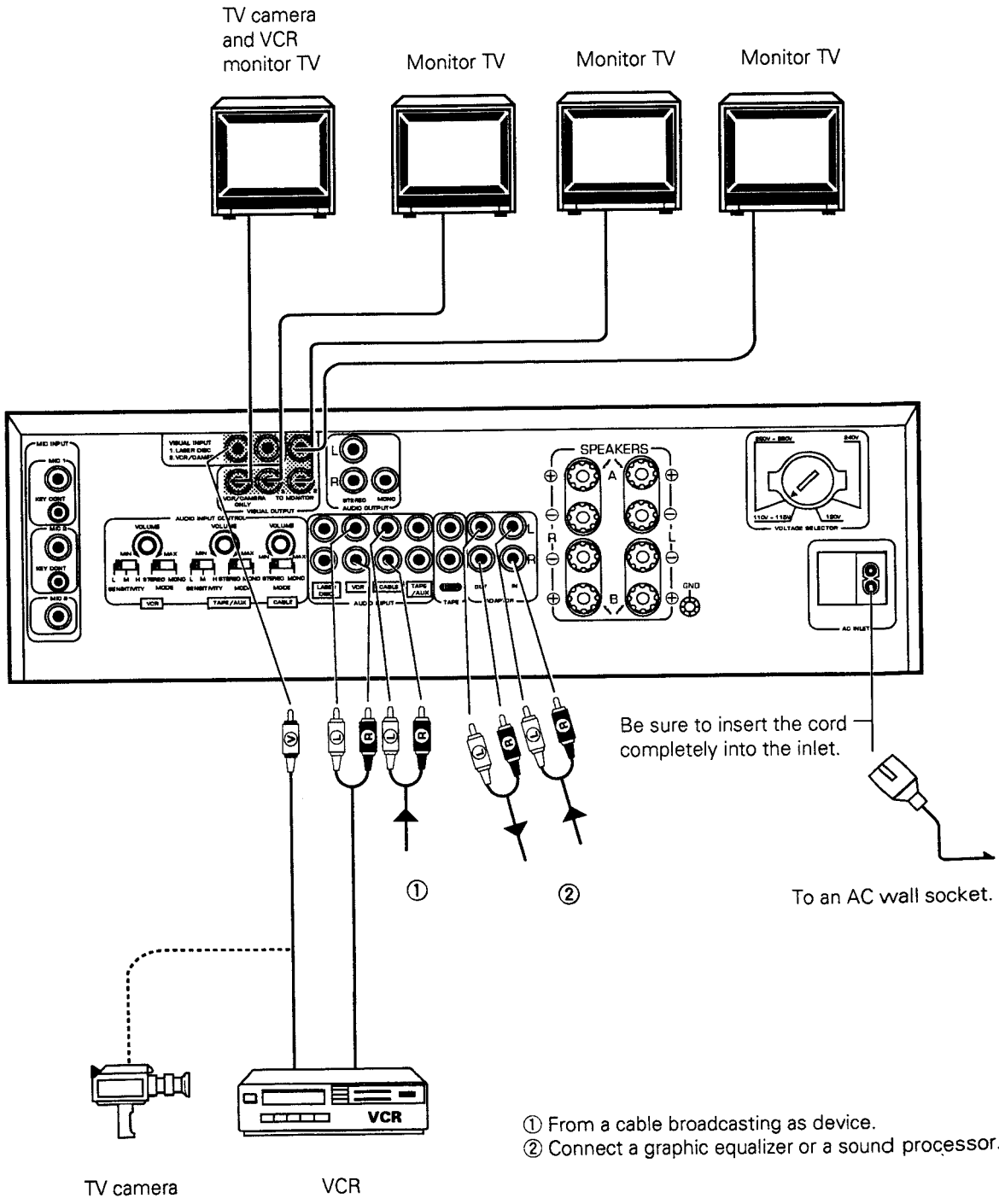
- *When using only the speakers with a separate power amplifier connected to the SA-V220:*
  Make sure to set the MASTER VOLUME control of the SA-V220 to "0".
- *When using speakers with both the SA-V220 and a separate power amplifier connected to the SA-V220:*
  Adjust the sound volume of the speaker connected to the SA-V220 using the MASTER VOLUME control of the SA-V220.
- *Adjust the sound volume of the other speaker connected to the separate power amplifier using the MASTER VOLUME control of the power amplifier.*

Be sure to switch the power of the stereo mixing amplifier and the stereo component ON only after all connections of stereo system are completed.

* Be careful to avoid wires from sticking out from the terminal and touching other wires, as this might cause malfunction.



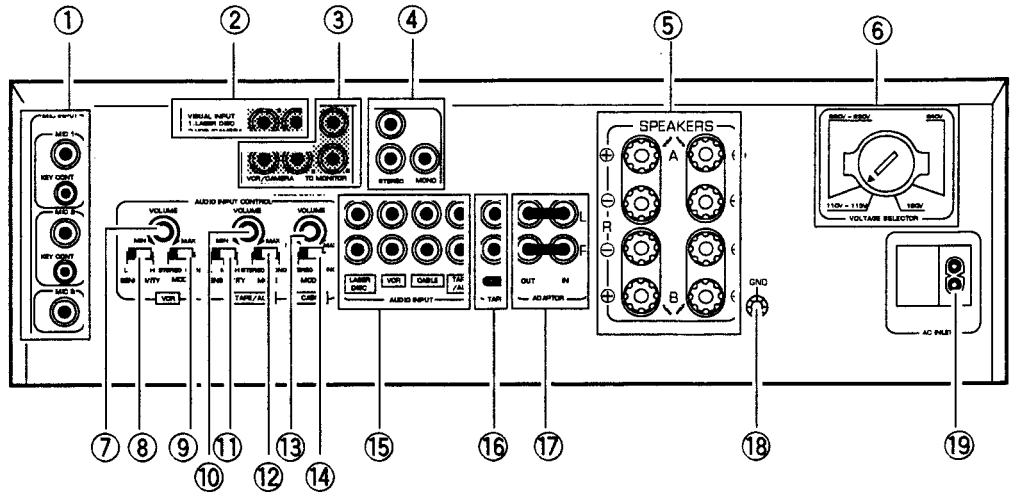
CAUTION:
Do not connect TV or Monitor to AC OUTLET.



① From a cable broadcasting as device.
② Connect a graphic equalizer or a sound processor.

PANEL FACILITIES

REAR PANEL



① MIC INPUT jacks 1,2 and 3

Connect the MIC cable(s) of the optional video rack. The MIC INPUT jacks are also used for connection to the optional wireless mic receiver.

When using microphones with key control remote switch connected to MIC 1 and 2, connect the control cords to the KEY CONT jacks.

If a microphone is connected to the MIC jack on the front panel, front input has priority.

NOTE:

- *Position of the key controller may change by connecting/ disconnecting of the remote plug. In such a case, set it again to the desired position.*
- *For the key control function, both front and rear inputs are effective.*

② VISUAL INPUT jacks

1 LASER DISC

Connect to the VIDEO OUT jack of the LD player.

2 VCR/CAMERA

Connect to the VIDEO OUTPUT jack of the VCR or TV camera.

③ VISUAL OUTPUT jacks

TO MONITOR 1-3

Jacks for connection to the VIDEO INPUT jacks of TV monitors (maximum three monitors).

VCR/CAMERA ONLY

Signals input to the "VCR/CAMERA" VISUAL INPUT jack of the SA-V220 will always be output. By connecting to a TV monitor, you can monitor a VCR or video camera.

④ AUDIO OUTPUT jacks

STEREO

These jacks are used to output the L and R audio signals to the audio input jacks (LASER DISC, VCR, CABLE, TAPE/AUX) of this unit. (excluding MASTER VOLUME and BALANCE controls)

MONO

The L and R audio signals input to the audio input jacks (LASER DISC, VCR, CABLE, TAPE/AUX) always appear as L + R monaural.

⑤ SPEAKERS terminals

Two speaker systems (A and B) can be connected. For details, refer to "CONNECTIONS" on page 3.

NOTE:

Always connect the plus (+) and minus (-) wires of the speakers to the speaker terminals of the same polarity. A polarity error can cause unnatural sound.

⑥ VOLTAGE SELECTOR switch

⑦ VCR VOLUME control

Controls the volume of the VCR input jacks sound.

This control is normally centered but should be adjusted in accordance with the volume of the LASER DISC.

⑧ VCR SOURCE SELECTOR SENSITIVITY switch

Switch it for proper operation of the AUTO SOURCE SELECTOR function of the SA-V220. For the AUTO SOURCE SELECTOR function, see page 10.

M :Normal position

L :(When no LASER DISC signal is input.)
If "TAPE/AUX" or "CABLE" terminal is automatically selected even though VCR is being played, set to this position "L" to select VCR.

H :(When no LASER DISC signal is input.)
If "TAPE/AUX" or "CABLE" is not selected even though VCR finishes its playback, set to this position "H" to select "TAPE/AUX" or "CABLE".

⑨ VCR MODE switch

This switch is used to select the VCR audio modes (MONO/STEREO).
Connect a VCR with monophonic audio output either to "L" or "R" AUDIO INPUT jack an set this switch to "MONO".

⑩ TAPE/AUX VOLUME control

Controls the input sound level of devices connected to the TAPE/AUX input jacks. This control is normally centered but should be adjusted for LASER DISC.

⑪ TAPE/AUX SOURCE SELECTOR SENSITIVITY switch

Switch it for proper operation of the AUTO SOURCE SELECTOR function of the SA-V220. For the AUTO SOURCE SELECTOR function, see page 10.

M :Normal position

L :(When neither LASER DISC nor VCR signal is input.)
If "CABLE" is automatically selected even though "TAPE/AUX" signal is being played, set to this position "L" to select "TAPE/AUX".

H :(When neither LASER DISC nor VCR signal is input.)
If AUTO INPUT selector remains at "TAPE/AUX" even though TAPE/AUX finishes its playback, set to this position "H" to select "CABLE".

⑫ TAPE/AUX MODE switch

This switch is used to select audio modes (MONO/STEREO) of components connected to the TAPE/AUX input jacks.
Connect a component with monophonic audio output either to "L" or "R" AUDIO INPUT jack and set this switch to "MONO".

⑬ CABLE VOLUME control

Controls the volume of the CABLE input jacks sound.
This control is normally centered but should be adjusted in accordance with the volume of the LASER DISC.

⑭ CABLE MODE switch

Changes the audio mode (MONO/STEREO) of cable broadcasts. For mono cable broadcasts, connect to either the "L" or "R" channel and set the CABLE MODE switch to MONO.

⑮ AUDIO INPUT jacks

LASER DISC
Connect to the AUDIO jacks of a LD player.

VCR
Connect to the AUDIO OUT jacks of a VCR.

CABLE
Connect sound output terminals of wire broadcasting.

TAPE/AUX
Can be connected to the PLAY (OUTPUT) jacks of a cassette deck or to the OUTPUT jacks of other audio components.

⑯ TAPE REC jacks

Connect to the REC (INPUT) jacks of a cassette deck. Mic mixing recording will be possible, because signals processed with microphone mixing are output.

NOTES:

- *Sound of CABLE will not be output when the TAPE REC button is OFF.*
- *Sound of TAPE/AUX will not be output from this jack in any case.*

⑰ ADAPTOR IN/OUT jacks

Used to connect a graphic equalizer or a sound processor. The ADAPTOR IN/OUT jacks have a jumper plug. Install the jumper plugs when you do not use these jacks. Otherwise, there will be no sound output.

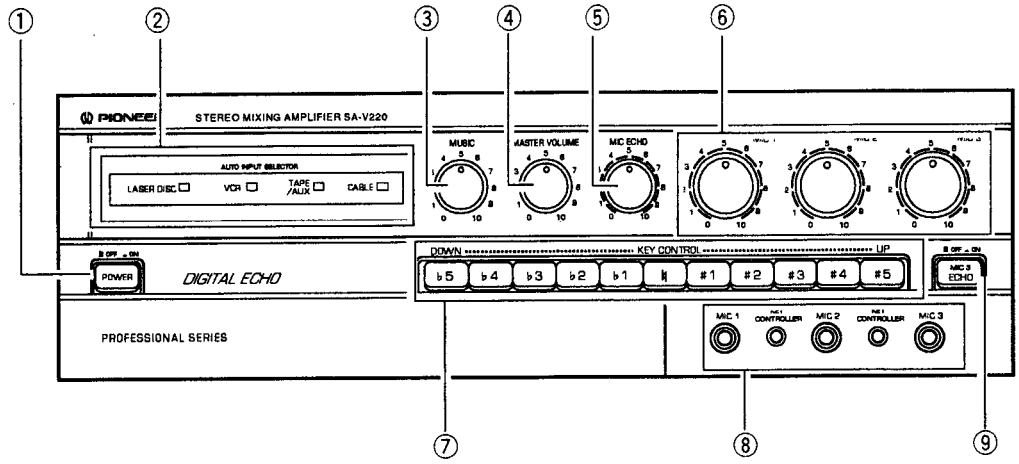
⑱ GND (Ground) terminal

Always ground this unit to prevent electrical shock and to avoid generating interference or noise in other equipment.

⑲ AC INLET jack

Connect one end of the power cord to here and the other end to an AC wall socket.
If you are going to be away from home for a long period of time, disconnect the unit from the wall socket.

FRONT PANEL



① POWER switch(▮ OFF/ ▁ ON)

Pressing this switch turns ON the power.
Pressing this switch again turns OFF the power.

② AUTO INPUT SELECTOR indicators

This unit automatically select the input source signals with priority in the order of LASER DISC, VCR, TAPE/AUX, and CABLE.
These indicators display the output source accordingly.

③ MUSIC control

Controls the volume of equipments connected to the LASER DISC, VCR, TAPE/AUX and CABLE jacks on the rear panel.
Normally, keep the MASTER VOLUME control near the 5-7 position and use the MUSIC control to adjust the volume of the music source.

④ MASTER VOLUME control

Controls the volume of the sound from the speakers.

⑤ MIC ECHO control

Controls the echo levels for microphones 1,2 and 3 simultaneously.

NOTE:

When using a microphone, the original sound itself is processed as well as any effect sound such as an echo, which is added to the original sound.
When using an effect sound, set the MIC ECHO control to "3"~"4".

⑥ MIC volume controls (MIC 1,2 and 3)

To adjust the respective microphones volume level against the music source.
Normally, keep the MASTER VOLUME control near the 5-7 position and use the MIC controls to adjust the volumes.

⑦ KEY CONTROL buttons/indicators

Press to change the pitch of the music source.

♮ :Changes to the standard pitch.
#1-#5 :A maximum raise of five tones above the setting of the standard key is possible in semitone-steps.
♭1-♭5 :A maximum decrease of five tones below the setting of the standard key is possible in semitone-steps.

NOTE:

No key change is possible when "CABLE" has been selected by the input selector.

⑧ MIC and KEY CONTROLLER jacks

Three microphones can be connected simultaneously.
When using a microphone with key control switch, connect it to MIC 1 or MIC 2 jack. And be sure to connect the control cable to the KEY CONTROLLER jack.

NOTE:

KEY CONTROLLER jack

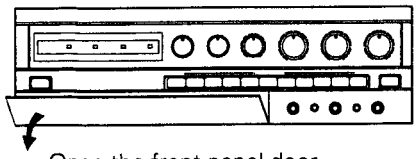
The set position of the key control might change when the control plug is connected to or removed from the KEY CONTROLLER jack. In such a case, reset to the desired position.

MIC jack

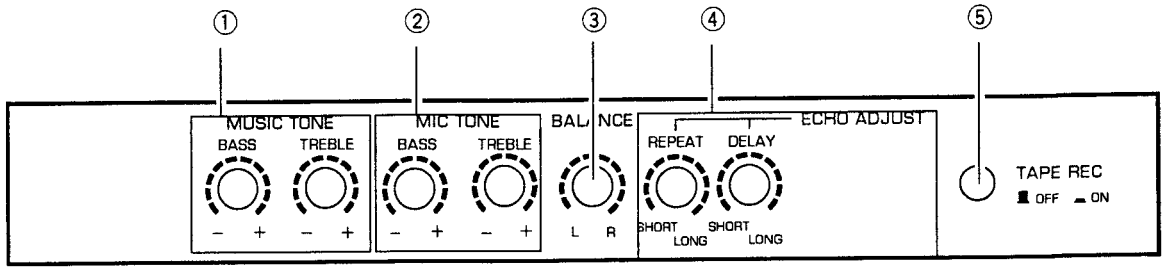
When a microphone is also connected to a MIC INPUT jack on the rear panel, the microphone connected to the front panel has priority. Note that there is no priority order with the key control function.

⑨ MIC 3 ECHO switch (▮ OFF/ ▁ ON)

This switch controls only the echo for the microphone 3 input.



Open the front panel door.



① MUSIC TONE control (BASS/TREBLE)

Adjusts the tone (bass/treble) of the device connected to the LASER DISC, VCR, CABLE or TAPE/AUX jack on the rear panel.

② MIC TONE control (BASS/TREBLE)

Can simultaneously adjust the tone of MIC 1,2 and 3. Adjusts bass and treble.

③ BALANCE control

Adjusts the sound balance of both speakers.

④ ECHO ADJUST control

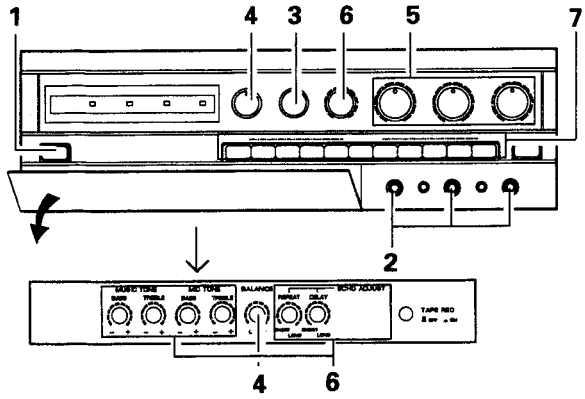
Varies the echo characteristics of MIC 1,2 and 3.
REPEAT:Adjusts the timing of the echo (number of repetitions).
DELAY :Adjusts the repetition interval of the echo.

⑤ TAPE REC button

Setting this button to ON allows you to record cable broadcasts. Set the button to OFF when you are not recording cable broadcasting programs.

NOTE:
TAPE/AUX will not be selected by AUTO INPUT SELECTOR when this button is ON.

OPERATION



1. **Turn the power ON to the SA-V220 and other components.**
   When using an LD player, turn on the TV monitor.

2. **Connect the microphone(s) to the MIC jack(s).**

3. **Set the MASTER VOLUME control as desired (e.g. set to 5-7).**

4. **Start playback. Adjust the volume level with the MUSIC control and speaker balance with the BALANCE control.**

5. **Speak or sing into the microphone and adjust the volume level with the MIC volume control.**

6. **Adjust the sound with the MUSIC TONE controls, ECHO ADJUST controls, MIC TONE controls, and MIC ECHO control as desired.**

7. **Select the desired key with the KEY CONTROL buttons.**

AUTO SOURCE SELECTOR

The SA-V220 automatically selects and outputs all input signals according to the following priority.

1.LASER DISC
2.VCR
3.TAPE/AUX
4.CABLE

The input sensitivity of VCR and TAPE/AUX can be changed by the SOURCE SELECTOR SENSITIVITY switch on the rear panel.

Automatic output switching of TV monitor

When the LD player is in stop mode, VIDEO signals from VISUAL INPUT jack 2 (VCR/CAMERA) will be output from the VISUAL OUTPUT jacks 1,2 and 3 to the monitor.

Fade-in function for cable

When the SA-V220 is switched from LASER DISC, VCR or TAPE/AUX mode to CABLE mode, the fade-in circuit is activated and the volume level gradually increases to the level that has been set by the MASTER VOLUME control after approx. 2 to 8 seconds.

ENJOY THE ECHO EFFECT

Adjustment of the Microphone Echo Volume

An echo effect makes you feel as if you are singing well, just like when you are humming in the bathroom. With the amplifier, the echo can be simultaneously applied to MIC 1,2 and 3. The echo volume can be adjusted with the MIC ECHO control. MIC 3 can be turned on/off using the switch.

Echo Adjustment

Echo can be adjusted by the following:

REPEAT
Changes the echo cycle to enhance the echo effect. Adjust to a shorter echo cycle for tunes with a quick tempo. Adjust to a longer echo cycle for tunes with a slow tempo.

DELAY
Changes the echo intervals to enhance the echo effect. Adjust the intervals according to the tempo of the tune.

Adjust to the desired echo effect by using the REPEAT and DELAY controls.

To Maximize the Echo Effect for Karaoke (Sing-Along)

Set the sound volume of the music slightly lower than the vocal.
This will improve the mixing balance and maximize the echo effect.

TROUBLESHOOTING

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Sometimes the trouble may lie in another component. Investigate the other components and electrical appliances being used. If the trouble cannot be rectified even after exercising the checks listed below, ask your nearest PIONEER authorized service center or your dealer to carry out repair work.

Symptom	Cause	Remedy
No sound from both or either speaker.	• Power cord is unplugged. • BALANCE control is set to max. right or left position. • Either plug of the speaker cord is disconnected.	• Connect the power cord. • Set the control to center position. • Connect the plug securely.
Microphone mixing does not operate.	• Microphone is incompletely plugged. • MIC volume control is set to minimum.	• Plug the microphone completely into the terminal. • Adjust with the MIC volume control.
"TAPE/AUX" and "CABLE" of AUTO INPUT SELECTOR indicators are switched alternately before recording the wire broadcasting.	• TAPE REC button turns OFF.	• TAPE REC button turns ON.

Abnormal functioning of this unit may be caused by lightning, static electricity, or other external interference. To restore normal operation, turn the power off and then on again, or unplug the AC power cord and then plug it in again.

SPECIFICATIONS

DIN Continuous power output (both channels driven at 1 kHz)
T.H.D. 1.0 %, 8 Ω ..... 75 W + 75 W
T.H.D. 1.0 %, 4 Ω ..... 120 W + 120 W
Total harmonic distortion
(AUX IN, 1 kHz, 60 W, 8Ω) 0.03%
Input Terminal (Sensitivity/Impedance)
Audio
MIC ..... 2.5 mV/25 kΩ
VCR, TAPE/AUX ..... 75 mV/50 kΩ
LASER DISC, CABLE ..... 150 mV/50 kΩ
ADAPTOR input ..... 150 mV/50 kΩ
Video
LASER DISC, VCR/CAMERA 1 Vp-p/75Ω
Output Terminal (Output level/Output impedance)
Audio
AUDIO OUTPUT (STEREO, MONO) ..... 1 V/2.2 kΩ
TAPE REC ..... 150 mV/4.4 kΩ
ADAPTOR ..... 150 mV/2.2 kΩ
Video
MONITOR, VCR/CAMERA ..... 1 Vp-p/75 Ω
Speakers Terminal
A or B ..... 4 to 16 Ω
A and B ..... 8 to 32 Ω
Frequency Response
MIC ..... 100 Hz to 10 kHz $^{+0}_{-3}$ dB
LASER DISC, CABLE, VCR, TAPE/AUX
..... 10Hz to 30 kHz $^{+0}_{-3}$ dB

Tone Control (Music/Mic)
BASS ..... $^{+14}_{-12}$ dB/ $^{+14}_{-13}$ dB (100 Hz)
TREBLE ..... $^{+11}_{-12}$ dB/ $^{+1}_{-14}$ dB (10 kHz)
Echo delay time/decay time .. 130 to 210 msec / 0.6 - 2.5 sec
Key Control Range ..... ± 2.5 musical intervals (11 positions)
Signal-to-Noise Ratio (DIN, continuous power / 50mW)
MIC ..... 56 dB/ 55 dB
LASER DISC, CABLE, VCR, TAPE/AUX ..... 64 dB/ 56 dB

Power Supply/Miscellaneous

Power requirements ..... AC 110~115/120/220~230/240 V (switchable), 50/60 Hz
Power consumption ..... 500 W
Dimensions ..... 420 (W) × 130 (H) × 440 (D) mm
Weight (without package) ..... 13.0 kg

Accessories

Audio cord 1
Power cord 1
Operating instructions 1

NOTE:
Specifications and design subject to possible modification without notice, due to improvements.

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